U. S Ethanol Industry Outlook

Randall J Doyal, CEO
Al-Corn Clean Fuel
The use of 13.3 billion gallons of ethanol in 2013 reduced GHG emissions by 38 million metric tons – equivalent to removing nearly 8 million cars from the road.

That's roughly enough cars to encircle the earth at the equator.
Americans want renewable fuels

A majority of American consumers polled favor the Renewable Fuel Standard in order to reduce foreign oil dependence and greenhouse gas emissions.

Poll data from March 16-17, 2014

AL-CORN CLEAN FUEL
The production of 13.3 billion gallons of ethanol in 2013 created real, measurable economic opportunity:

- **$8.3 billion** tax revenue
- **$30.7 billion** in household income
- **$44 billion** contribution to GDP
- **86,504** direct jobs
- **300,277** indirect or induced jobs

**AL-CORN**

**CLEAN FUEL**

Source: Renewable Fuels Association, January 2014
Shipping Ethanol (Logistics)

**Rail** - 30,000 gallons of ethanol can be shipped in a single DOT-111 railcar

**Barge** - 500,000 to 1.5 million gallons of ethanol can be shipped on inland waterways

**Truck** – 8,000 gallons of ethanol can be shipped in a typical MC306 or DOT406 transport truck
The majority of ethanol moves to markets across the country on rail cars like this.
Is it safe to ship ethanol by rail?

- Railroads have an incredibly strong safety record when moving ethanol
- 99.997% of hazardous materials shipped on the railroad arrived safely without an accident
Moving Ethanol by Rail - A Virtual Pipeline

70% of ethanol travels from the ethanol plant via rail
Example

A 100 million gallon per year ethanol plant would ship:

• 3448 tank cars full of ethanol each year
  • 10 tank cars each day

• 3048 hopper cars full of our co-products Dried Distillers Grain with Solubles each year
  • 9 hopper cars each day
Most ethanol shipments by rail originate in the Midwest and move to the coasts for distribution.
Canada = 53%
Peru = 5%
EU = 4%
Brazil = 6%
UAE = 7%
Other = 7%
U.S. Ethanol is also exported
2013 shipments went to these countries
Mexico = 5%
Jamaica = 2%
Philippines = 9%
India = 1%
• Crude Oil and Ethanol are most commonly shipped in the DOT-111 tank car

• There are approximately 29,000 tank cars for ethanol transport in service today, 30,000 tank cars for crude oil transport. On average each car will make one trip a month.

• Ethanol producers ship 320,000-340,000 tank cars of ethanol by rail. The petroleum industry shipped over 400,000 tank cars of crude oil in 2014.
Rail shipments of ethanol have stabilized over the past four years.

Shipments of crude oil have increased 1363% since 2010.
Can Rail Delays Impact Ethanol Production?

Last winter’s polar vortex caused a backlog of rail shipments of ethanol, grain and coal for power plants.

BUT, It’s more than that

Increasing shipments of oil have overtaxed the rail roads forcing some ethanol plants to reduce production due to lack of railcars to ship their product to market.
Thank You